What is claimed is:

1. A radiation image recording and read-out method, comprising the steps of:

i) supporting a stimulable phosphor sheet at a position for image recording, at which one surface of the stimulable phosphor sheet is exposed to radiation,

ii) exposing the one surface of the stimulable phosphor sheet, which is supported at the position for image recording, to the radiation, a radiation image being thereby stored on the stimulable phosphor sheet,

iii) performing an image read-out operation by irradiating stimulating rays in two-dimensional directions to the stimulable phosphor sheet, on which the radiation image has been stored during its exposure to the radiation, the stimulating rays causing the stimulable phosphor sheet to emit light in proportion to an amount of energy stored thereon during its exposure to the radiation, and photoelectrically detecting the emitted light, an image signal, which represents the radiation image having been stored on the stimulable phosphor sheet, being thereby obtained, and

iv) releasing energy, which remains on the stimulable phosphor sheet after the image signal has been obtained from the stimulable phosphor sheet, by irradiating erasing light to an entire area of the stimulable phosphor sheet with an erasing light source, the erasing light source being located on a side of the other surface of the stimulable phosphor sheet supported at the

position for image recording, which other surface is opposite to the one surface of the stimulable phosphor sheet exposed to the radiation,

wherein a filter, which has transmitting properties with respect to the erasing light and has good absorbing properties with respect to the radiation, is located on a side of the erasing light source, which side stands facing the stimulable phosphor sheet.

2. A method as defined in Claim 1 wherein the filter is a filter, which transmits only light constituted of light components having wavelengths longer than wavelengths of an ultraviolet region.

3. A method as defined in Claim 1 or 2 wherein the filter is constituted of a material selected from the group consisting of a plastic material, which contains a heavy metal, and a glass, which contains a heavy metal.

4. A method as defined in Claim 1 or 2 wherein the stimulable phosphor sheet is kept stationary at the position for image recording, and

the image read-out operation is performed with image read-out means, which is located between the stimulable phosphor sheet and the erasing light source.

5. A method as defined in Claim 4 wherein the image read-out means comprises:

a) a read-out unit for irradiating the stimulating rays to the stimulable phosphor sheet in a one-dimensional direction

along a main scanning direction and detecting the light, which is emitted by the stimulable phosphor sheet when the stimulating rays are irradiated to the stimulable phosphor sheet in the one-dimensional direction, and

b) unit moving means for moving the read-out unit in a sub-scanning direction.

6. A method as defined in Claim 5 wherein the read-out unit comprises a linear stimulating ray source, which linearly irradiates the stimulating rays to an area of the stimulable phosphor sheet, and

a line sensor, which is located along the linear area of the stimulable phosphor sheet exposed to the linear stimulating rays and photoelectrically detects the light emitted by the stimulable phosphor sheet when the stimulating rays are irradiated to the stimulable phosphor sheet.

7. A radiation image recording and read-out apparatus, comprising:

i) an image recording section for supporting a stimulable phosphor sheet at a position for image recording, at which one surface of the stimulable phosphor sheet is exposed to radiation,

ii) image read-out means for performing an image read-out operation by irradiating stimulating rays in two-dimensional directions to the stimulable phosphor sheet, on which a radiation image has been stored during its exposure to the radiation in the image recording section, the stimulating

rays causing the stimulable phosphor sheet to emit light in proportion to an amount of energy stored thereon during its exposure to the radiation, and photoelectrically detecting the emitted light, an image signal, which represents the radiation image having been stored on the stimulable phosphor sheet, being thereby obtained, and

iii) an erasing light source located on a side of the other surface of the stimulable phosphor sheet supported at the position for image recording, which other surface is opposite to the one surface of the stimulable phosphor sheet exposed to the radiation, the erasing light source releasing energy, which remains on the stimulable phosphor sheet after the image signal has been obtained from the stimulable phosphor sheet, by irradiating erasing light to an entire area of the stimulable phosphor sheet,

wherein a filter, which has transmitting properties with respect to the erasing light and has good absorbing properties with respect to the radiation, is located on a side of the erasing light source, which side stands facing the stimulable phosphor sheet.

8. An apparatus as defined in Claim 7 wherein the filter is a filter, which transmits only light constituted of light components having wavelengths longer than wavelengths of an ultraviolet region.

9. An apparatus as defined in Claim 7 or 8 wherein the filter is constituted of a material selected from the group

consisting of a plastic material, which contains a heavy metal, and a glass, which contains a heavy metal.

10. An apparatus as defined in Claim 7 or 8 wherein the stimulable phosphor sheet is kept stationary at the position for image recording, and

the image read-out means is located between the stimulable phosphor sheet and the erasing light source.

11. An apparatus as defined in Claim 10 wherein the image read-out means comprises:

a) a read-out unit for irradiating the stimulating rays to the stimulable phosphor sheet in a one-dimensional direction along a main scanning direction and detecting the light, which is emitted by the stimulable phosphor sheet when the stimulating rays are irradiated to the stimulable phosphor sheet in the one-dimensional direction, and

b) unit moving means for moving the read-out unit in a sub-scanning direction.

12. An apparatus as defined in Claim 11 wherein the read-out unit comprises a linear stimulating ray source, which linearly irradiates the stimulating rays to an area of the stimulable phosphor sheet, and

a line sensor, which is located along the linear area of the stimulable phosphor sheet exposed to the linear stimulating rays and photoelectrically detects the light emitted by the stimulable phosphor sheet when the stimulating rays are irradiated to the stimulable phosphor sheet.